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The Relationship Between Teacher Beliefs, Adult Attachment, & Teacher Sensitivity

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THE RELATIONSHIP BETWEEN TEACHER BELIEFS, ADULT ATTACHMENT AND TEACHER SENSITIVITY

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of
the requirements for the degree of
Master of Education

in

The College of Human Sciences and Education

by
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Abstract

Young children spend most of their waking hours in childcare. Therefore, the care received in childcare is an important factor in young children's development. Research has revealed that a child's first three years of life are a period of rapid brain development and teacher education level is associated with increased outcomes for young children. However, the educational requirements to work in childcare remain low. In the absence of training and education, early childhood teachers are likely to rely on their beliefs about young children, which impacts the ways teachers care for young children. This research intends to determine if a relationship exists between adult attachment style, teacher beliefs about toddler care and education, and teacher sensitivity in early learning classrooms in the southern United States. The research questions guiding the study are: Is there a relationship between adult attachment style, teacher beliefs about toddler care and education, and teacher sensitivity?, Is teacher attachment style related to teacher beliefs?, and Is teacher attachment style related to teacher sensitivity & regard for child perspectives? The participant cohort is composed of 23 teachers that serve children ages 12-36 months in diverse early learning environments. Though, the participant number is small, results suggest that participants had a uniquely insecure attachment trend, and fairly low congruence with developmentally appropriate practice (DAP). More work should be done to determine if this relationship is significant, and if this can be attributed to education level or training.

Furthermore, a relationship between education and adult attachment style was found.

Keywords: *adult attachment, teacher beliefs, teacher sensitivity, toddler teachers, early childhood teachers*

Chapter 1. Introduction

Today, 60% of young children spend on average 36% of their waking hours in childcare (Rathbun & Zhang, 2016), making the care and education received in childcare an important factor in young children's development. Although research has revealed that a child's first three years of life are a period of rapid brain development (Rosanbalm & Murray, 2017) and that teacher education level is associated with increased outcomes for young children (Manning, et al., 2019; Whitebook, 2003), the educational requirements to work in child care remain low (Manning, et al., 2019). In most states, all that is required is a high school diploma or equivalent (Bureau of Labor Statistics, 2018). In the absence of formal training, early childhood teachers are likely to rely on their beliefs about young children in the delivery of both instruction and guidance (Ajzen, 2011; Cassidy & Lawrence, 2000; Jung & Recchia, 2013), which can impact the ways in which they interact or form an attachment with the young children in their care. *Attachment* is defined as “the universal innate propensity of humans to form protective and comforting relationships” (Crittenden, 2017, p.438) and is important for healthy development, as it impacts how the child views the world (Bowlby, 1969). Therefore, it is important to examine the attachment relationship between young children and their teachers.

Just as attachment impacts beliefs, there is literature that suggests beliefs impact behavior. There is research documenting the relationship between teacher beliefs as defined as “implicit or explicit ideas that guide decision making and action that teachers may or may not be conscious of” (Basturken, 2012, p.285) and teacher sensitivity in the classroom (Hamre, et.al., 2012). However, the link between attachment theory, defined as “a theory pioneered by Bowlby (1969) referring to cognitive schemas as internal working models, which are based upon expectations and beliefs about the availability, dependability and supportiveness of attachment

figures and whether the self is worthy of attention, care and support” (Read, et al., 2018) and teacher beliefs has not been extensively researched. We know that teacher-child relationships (indicated by teacher-child interactions) are reciprocal predictors of teacher and student emotional well-being and learning (Hagenauer, et al., 2015). LaParo, et al., (2012) characterize effective teacher-child interactions in terms of two broad domains: “Emotional and Behavioral Support, Engaged Support for Learning” that guide child development in the toddler classroom, there is an increasing body of research documenting this relationship in toddler classrooms (Early et al., 2017).

Previous research has sought to consider teacher beliefs or the image of the child (Gencer & Gonen, 2015), examine the role of attachment (Bowlby, 1969; Perlman et al., 2016) and quantify the relationship between teachers and toddlers (Burchinal et al., 2000; Mashburn et al., 2008; Perlman et al., 2016). This research intends to collectively examine how adult attachment style impacts teacher beliefs and impacts the practice of teacher sensitivity to young children in the early childhood classroom.

Teacher Beliefs

The images or beliefs that teachers hold about children are implicit, vary based on social context, and fundamentally guide their interactions in the classroom (Moss, 2010). When teachers choose to examine and explicitly define their beliefs, they can reflect on how those beliefs impact their interactions with young children. Children, according to the Reggio-Emilia Approach to early childhood education, are considered “competent, creative, curious, ambitious and full of potential” (Gandini, 2012; Malaguzzi, 1994). It is due to Malaguzzi’s image of the intelligent and competent child that Reggio Emilia educational environments value and respect a child’s rights and abilities to learn autonomously.

Researchers have found that teachers enter the field with both implicit and explicit beliefs that shape all interactions with children. Implicit beliefs (mindsets) “may exist outside of our awareness and may influence our actions without our awareness” (Harrison & Lakin, 2018). Explicit beliefs are “products of introspection which are accessible and reportable by the holder” (Harrison & Lakin, 2018). Such beliefs persist, however, Hamre et. al., (2012) found that as teachers engage in professional development practices, they are more likely to hold intentional beliefs about teaching, had better knowledge of effective interactions and were better able to identify multiple aspects of effective emotional and instructional practices. Furthermore, Grantham-Caston (2017) found that teachers who engaged in regular video self-reflective practice had improved pedagogical practice and improved quality of instruction in the toddler classroom. In both cases, professional development and reflection using the CLASS tool (LaParo, et. al., 2012) as a framework improved teacher belief about young children, teacher-child interactions and as a result, instructional quality.

Adult Attachment Styles

Researchers have found that adult attachment style affects romantic, sexual and caregiving behaviors. Beliefs impact behavior, as do attachment bonds. Infantile attachment persists into adulthood caregiving behaviors, so we see that adults are unconsciously (or explicitly) raising children with similar or same attachment behaviors their parents used. In other words, adults tend to behave the same way their parents behaved (Fraley, 2002). Furthermore, adult attachment styles impact teacher-child interactions. Researchers have found that adult attachment style is a dispositional trait which impacts teacher-child interactions (Ripski, et. al., 2011). Teacher dispositions are found to be more fixed than knowledge and are responsible for the implementation of what is known (Colker, 2008). Therefore, teachers are less likely to be

effective because they do not have the ability to interact effectively (Colker, 2008; Ripski, et. al., 2011). With professional development, teachers can expect to mediate the effects of their attachment classification, improve their professional dispositions, and improve teacher-child interactions.

Teacher Sensitivity

Classroom environment is dependent on teacher beliefs (Norris, Horm, & McMullen, 2015). Researchers studied the influence of teacher beliefs about infants and toddlers on their interactions with children. The classroom climate that is provided for children was found to be largely dependent on the nature of teacher's beliefs about young children (Ahnert, 2016). If teachers view toddlers as active participants in their learning, they are more likely to engage in emotionally sensitive and cognitively stimulating interactions in the classroom. (Degotardi & Sweller, 2012). Thus, teacher sensitivity is supported by appropriate beliefs about the act of teaching young children. Ahnert (2016) examined the nature of the teacher- child relationship and elaborated on Beckh and Becker-Stoll's (2016) assertion that teacher sensitivity is the main way by which teachers develop and improve relationships with their students. Furthermore, Ahnert (2016) comments on teacher sensitivity as being shaped by mental representations and might be reshaped through teacher education. Quality professional development is needed to bridge the gap between the unconscious, habitual behaviors that are a result of beliefs and attachment style, and the sensitive, supportive behaviors of an educated teacher.

Purpose

The purpose of this research study is to determine if a relationship exists between adult attachment style, teacher beliefs about toddler care and education, and teacher sensitivity in diverse early learning classrooms in the southern United States. Research has demonstrated that

adult attachment style is related to relationship (Hazan & Shaver, 1987; Mayseless, 1991; Mikulincer & Shaver, 2019), and caregiving behaviors (Bowlby, 1969; Mikulincer & Shaver, 2019; Ripski, et.al., 2011). Furthermore, literature has determined that teacher beliefs impact teacher sensitivity (Norris, et.al., 2015; McMullen, 2010; Degotardi & Sweller, 2012), and therefore, teacher sensitivity (Castle, et al., 2016). Though teacher behaviors have more of an immediate effect on child outcomes (Mujis & Reynolds, 2015), researchers found that teacher beliefs directly influence teacher and child behaviors (Temiz & Topcu, 2013; Upadyaya & Eccles, 2014).

Research Instruments

The *Beliefs About Infant Toddler and Care* (BAITEC) is a 24-item questionnaire designed by Anderson (2015). The BAITEC is used to measure what infant and toddler teachers believe to be important about the classroom and interactions with infants and toddlers. The tool has been edited to focus solely on developmentally appropriate practice for toddlers aged 12 to 36 months to fit the scope of this study. Researchers made minor changes to include only the word “toddler” instead of “infant and toddler” or replaced the word “bottle” with “cup.” This measure is found to be valid (.86) (Anderson, 2015) when at least 5 to 10 participants respond to every item. This survey was designed with a 5-point (in which 1 is the lowest, and 5 is the highest) Likert rating scale and questions were phrased intentionally to lack indication of the socially desirable answer. The tool has 50% of items that are reverse coded, and the total number of points indicates the degree to which the participants beliefs are in alignment with developmentally appropriate practice. The author seeks to determine if the teacher beliefs measured by the BAITEC are related to teacher sensitivity outcomes as defined by the CLASS tool.

The *Classroom Assessment Scoring System* (CLASS) tool is used to identify, describe and assess the quality of interactions in early childhood classrooms. Hamre et.al. (2012) found that when teachers took a 14-week course on effective teacher-child interactions using the CLASS tool that they had more intentional beliefs and a greater understanding of quality teacher-child interactions in the classroom. CLASS scores are reported by center directors by classroom and assigned to a teacher, though these scores are representative of interactions of all adults in the classroom during the time of observation. For the purposes of this study, researchers are only interested in the Teacher Sensitivity dimension of the Emotional and Behavioral Support domain which will result in one score that may or may not differ from the classroom total (Sandilos, et. al., 2014). The quality of classroom interactions are rated between 1 and 7. A score of 1 to 2.99 indicates *unsatisfactory performance*; 3 to 4.49 indicates *approaching proficient performance*; 4.50 to 5.99 indicates *proficient performance*; and 6 to 7 indicates *excellent performance* (LaParo, et al., 2012). The CLASS tool is a valid (.85) and reliable measure of teacher-child interactions. CLASS scores are reported twice a year by both a third-party observer and an early childhood network observer. Scores are compared for interobserver- reliability. It was the researchers' intent to use CLASS scores as a measure of teacher sensitivity and examine them in relation to not only BAITEC scores, but also the ECR-R measure of adult attachment style.

The *Experiences in Close Relationships- Revised* (ECR-R; Fraley, et. al., 2000) tool is a self-reporting measure used to assess adult attachment style. Adult attachment style is a function of infant attachment style. Fraley (2002) found that attachment styles persist across an individual's life and impacts adult romantic, sexual, and caregiving behaviors. Therefore, the present study seeks to examine adult attachment style using the ECR-R to determine if attachment style is related to teacher beliefs and teacher sensitivity, specifically. Four general

categories of attachment are defined (Fraley, 2000) as follows: *securely attached* individuals will score below the median on measures of anxiety and avoidance; *dismissive* individuals will score above the median for avoidance, and below the median for measures of anxiety; *fearful* individuals score about the median on measures of anxiety and avoidance and finally, *preoccupied* individuals score above the median on measures of anxiety and below the median for measures of avoidance. Participant surveys will be scored, and each assigned one of four attachment classifications. Participants completed the Experiences in Close Relationships-Revised (ECR-R; Fraley, et. al., 2000) self-reporting measure of the two indicators of insecure attachment: anxiety and avoidance. The participants' scores on the ECR-R are categorical and therefore, allow for the researcher to group participants into only four categories of attachment. The ECR-R tool is found to be valid internationally as a self-reporting measure of adult attachment style.

Research Question

The guiding question for the present study was to determine if a relationship existed between education, categorical adult attachment style (as measured by the ECR-R tool), teacher beliefs about toddler care and education (as measured by the BAITEC tool) and teacher sensitivity (as measured by the CLASS tool). The two sub questions were:

1. Is teacher attachment style related to teacher beliefs? (as answered by Part I of the study)
2. Is teacher attachment style related to teacher sensitivity? (as answered by Part II of the study)

Research Design

A non-experimental research design (Mertler, 2018) was used in this study to gather information from toddler teachers on the BAITEC and ECR-R via online and in-person

distribution of these surveys. In Part I, survey research was used to determine if there was a relationship between adult attachment and teacher beliefs. Survey research has many applications in education settings (Walston, et al., 2017). Surveys can provide quantitative data on behaviors, beliefs, attitudes and characteristics of participants. In Part II of the present study, information on the teachers' CLASS observations was obtained through a request to the center director for each teachers' state score from a CLASS-reliable observer. These data were collected to determine if a relationship exists between adult attachment and teacher sensitivity. Researchers distributed the measures both electronically to capitalize on the convenience of mass distribution and in-person to all participants to ensure a high return rate (Mertler, 2018). Previous studies have reported a consistent return rate of 66% (Corcoran & Steinley, 2019; Roberts, et al., 2017) from early childhood teachers. However, the return rate was not as expected due to limitations outside the researcher's control.

Researchers used convenience sampling to intentionally select participants from sites that have a documented CLASS rating on the state's Department of Education website. All participating sites were identified using this method. This sampling method was used, as consistent with the literature, Corcoran & Steinley, 2019; Roberts, et al., 2017) to mediate the low return rate that is common with survey research.

Benefits and Limitations

The benefit of using direct distribution of survey research (i.e., in-person) is a high return rate (Trentelman et al., 2016). Survey research can easily accommodate a particular research question. All tools are of no cost to the researcher. "Surveys are important in education research because they can provide quantitative descriptions of the characteristics, behaviors, and attitudes of students, teachers, principals, parents, district leaders, and other specific populations. Accurate

data from a well-designed survey can be instrumental in guiding effective policy and program decisions” (Walston, et al., 2017, p. 1).

Limitations

1. Authors recommend the ECR-R measure is used to understand adult attachment on a continuum of security in line with current research of adult attachment (Fraley, 2000).
2. Convenience sampling results in outliers due to its non-random nature which is likely to influence the descriptive statistics (Farrokhi & Mahmoudi-Hamidabad, 2012)
3. The COVID- 19 pandemic significantly halted the researcher’s ability to do in person distribution (Clay, 2020)

De-Limitations

1. Self- reporting measures are less reliable (Walston, et al., 2017) than other forms of quantitative data collection. Survey research can only quantify what teachers perceive about themselves and others.
2. Collecting data at the researcher’s home site is more likely to be affected by researcher bias (Mertler, 2018).
3. There was no concurrent validity for the ECR-R and BAITEC. Researchers did not check for participant agreement with their scores (Kaplan, 2001).

Assumptions

1. Reggio-Emilia practices that guide beliefs in participants are culturally and developmentally appropriate for toddlers aged 24 to 36 months.
2. Due to the anonymous nature of this data collection process, participants will answer truthfully.

Definitions

Toddler, for the purpose of this study, is referring to typically developing young children aged 12 to 36 months.

The Image of the Child is something “each one of you has inside yourself...that directs you as you begin to relate to a child. This theory within you pushes you to behave in certain ways; it orients you as you talk to the child, listen to the child, observe the child.” (Malaguzzi, 1994, p. 1)).

Teacher Beliefs are “implicit or explicit ideas that guide decision making and action that teachers may or may not be conscious of.” (Basturken, 2012, p.285).

Adult Attachment Styles are “the patterns of behavior that govern stress management and relationship behaviors rooted in infantile attachment to a caregiver.” (Hans, 2005, p.567).

Teacher Sensitivity is defined as “consistently demonstrating awareness and responsiveness to children’s current academic and emotional abilities and needs” (Morrow, 2016, p.1).

Chapter 2. Literature Review

Teachers of the nation's youngest children are the least educated and paid poverty level wages. There are approximately 1,160,000 child care workers in the United States (Bureau of Labor Statistics, 2018). Nationwide, these individuals are paid just one hundred dollars more than the 185% threshold that indicates eligibility for government assistance such as SNAP and Head Start for a single person, living alone (ASPE, 2019). Furthermore, these teachers are only required to obtain a high school diploma or equivalent exacerbating the likelihood they will not climb out of family and neighborhood level poverty. Many early childhood teachers across the nation are forced to work two jobs or apply for government assistance to supplement their incomes (Bureau of Labor Statistics, 2018).

In the researcher's home state, there are 8,840 child care workers (Bureau of Labor Statistics, 2018) that are paid a mere \$19,820 annually. This breaks down to less than ten dollars an hour. Likewise, the geographical region in which this study was conducted averages even lower wages than the state average for their 1,860 child care workers. The average salary of the participant pool is \$19,620 (Bureau of Labor Statistics, 2018). Because of low wages and high expectations, teachers are in the unique position of doing incredibly important work that is unfortunately undervalued. It is for this reason, accessible, high-quality professional development is desperately needed if our nation expects high quality classroom environments for our youngest members of society.

The quality of early childhood environments dramatically impacts both teachers and the developing child. The Classroom Assessment Scoring System (CLASS; LaParo, et. al., 2012) assesses the quality of teacher-child interactions as they found it to reliably capture the

environment in classrooms serving children of all ages. This assessment is used in this study in alignment with the literature on early childhood classroom quality. A systematic review of the literature (Manning, et al., 2017) found a correlation between teacher qualification and quality of education and care in classroom environments (teacher-child interactions). Furthermore, Manning, et al., (2017) found that teacher qualification as defined as education and experience, is correlated with quality of program structure and activities. One aspect of classroom environment, instructional materials, when used to support interactions have the opportunity to promote an inclusive and equitable classroom culture (Souto-Manning, et al., 2019), and developmentally appropriate practice (Copple, et al., 2014). Materials, planned activities, program structure, and teacher-child interactions all impact child development and measures of teacher efficacy (Manning, et al., 2017).

As children are co-constructors of their learning, theory suggests that development occurs because of a child's constructed knowledge and interactions with the socio-cultural environment (Gandini, 2012; Kim, 2001; Malaguzzi, 1994; McClure, 2009; McCartney & Harris, 2014; Powell & Caline, 2009; Vygotsky, 2016). Social Constructivism theorizes that knowledge is constructed only because of interactions with a social environment (Kim, 2001). Researchers find that Vygotsky's theory of how learning develops is most in alignment with the Reggio Emilia Approach to learning. Both indicate a resistance to the idea that one principle is responsible for development and view children as learning through interactions in their world (Kim, 2011; Malaguzzi, 1994). According to Vygotsky, learning is dependent on the socio-cultural context (Kim, 2011). Reggio- Emilia Approach to learning suggests that children are "competent, creative, curious, ambitious and full of potential" (Gandini, 2012; Malaguzzi, 1994) which leads more contemporary authors to describe children as "competent interactionists"

(McClure, 2009; McCartney & Harris, 2014). In contrast, Piagetian or Cognitive Constructivism theorizes that an individual constructs knowledge from birth in a prescribed order because of the construction of cognitive schemas that results from cognitive assimilation and accommodation (Powell & Calina, 2009).

As children construct knowledge in socio-cultural environments, theory indicates the well-designed classroom with healthy and supportive interactions positively affect child development. It seems that when serving as a competent- other, aiding in discovery, (Alfieri, et al., 2011), the teacher is better equipped to design developmentally appropriate interactions with the early childhood environment. Furthermore, teacher education level is correlated with the quality of early learning environment (Manning, et al., 2017) and because teachers of the youngest members of our communities are the least educated in the field (Bureau of Labor Statistics, 2018), we must provide accessible opportunities for supportive professional development experiences (Grantham-Caston, 2017). In the absence of formal training, teachers are likely to rely on their beliefs about young children in the delivery of both instruction and guidance (Ajzen, 2011). Furthermore, beliefs are directly impacted by attachment style (Fraley, 2015).

Teacher Beliefs

As is true with attachment's impact on behavior, research has found that beliefs impact behavior. Ajzen's work on planned behavior dictates that human social behavior is guided by implicit attitudes. These attitudes are in turn formed by beliefs and motivations (Ajzen, 2011). The existing literature on teacher beliefs confirm Malaguzzi's theory of the image of the child. Teacher beliefs, as Malaguzzi (1994) indicates, have a direct impact on teacher-child interactions. Theories of child development and early childhood pedagogy generally dictate our

beliefs and appropriate behaviors in the classroom. Because such theories vary widely, authors focus attention to the two prevailing theories that guide thought and behavior at the participant sites: Reggio- Emilia Approach and Constructivism. Both Reggio- Emilia Approach and Constructivism are characterized by child-centered learning and development and learning through play. Both approaches encompass and shape developmentally appropriate practices for young children.

Furthermore, Temiz, & Topcu (2013) examined the positive effect of constructivist beliefs on teacher efficacy. It was found that participants who have higher scores of teacher efficacy beliefs tend to use constructivist approaches. Teachers who have low efficacy beliefs tend to use traditional methods of teaching such as lecture, which is characterized as developmentally inappropriate for young children (Copple, et al., 2014). Here we see teacher beliefs about their efficacy directly influence their teaching behaviors.

Teacher beliefs about children likewise influence teaching behaviors. The Reggio- Emilia approach to early learning is named after a town in Italy in which it was founded after the last World War. Parents teamed up with renowned pedagogist, Loris Malaguzzi, to create a community of child-centered early learning environments. Malaguzzi, (1994) theorizes that one of the eight guiding tenants, *the image of the child* guides every interaction a teacher has with children. Teachers that ascribe to the Reggio - Emilia approach to learning tend to believe that children are competent and capable. Children learn through experimentation and discovery, play and projects. Furthermore, teachers habitually observe their students to “research” or assess the needs of the children in her care and create a true, living curriculum (Gandini, 2012; Malaguzzi, 1994). The image a teacher holds about the nature of children fundamentally guides all interactions in the classroom environment.

In the seminal research on teacher beliefs, Vartuli (1999) examined teacher beliefs and classroom practice in teachers of grades Pre-Kindergarten through Third Grade. Authors found that beliefs were significantly more appropriate than classroom practices at every grade level (PK-3). Furthermore, Vartuli (1999) found that teachers with fewer years of experience and a degree in early childhood education were more likely to believe and behave in alignment with developmentally appropriate practice. Higher education level was associated with higher developmentally appropriate beliefs and practices. This assertion is supported by later work by Wang, et.al., (2008) who found that education and professional training were significantly associated with teacher beliefs.

Likewise, Cheung (2012) sought to examine teacher beliefs about creativity and the impact on teacher creative behaviors in the classroom. When teachers were interviewed they were more likely to say that they believed in strategies that were aligned with developmentally appropriate practice, however when observed, teachers were less likely to allow for free-play and more likely to engage in structured lessons. This trend is consistent with questioning patterns as well. Authors found that though teachers said they believed in the importance of open-ended questioning; they were observed using mostly closed-ended questions. This suggests that teachers are aware of what is developmentally appropriate, however their behaviors do not mirror these beliefs. Authors call for quality professional development to mediate the other factors that influence teacher behavior.

File (1994) worked to support the assertion that teacher beliefs impact teacher-child interactions. Though teachers believed support of social interactions in play were important for both typically and atypically developing students, they were more likely to encourage cognitive development during play. However, authors did observe teachers interacting more with children

with disabilities than with typically developing children. This was consistent with teacher beliefs. File (1994) calls for cross-disciplinary research and professional development for early childhood teachers. “Efforts to cross traditional disciplinary boundaries in the published literature, at conferences, and in higher education and training efforts, can help to broaden the dissemination of information to all professionals who may be involved in integrated service delivery” (File, 1994, p. 236).

The use of professional development to effect teacher beliefs and teacher-child interactions was examined by Hamre, et.al., (2012). Professional development using the CLASS tool to improve teacher-child interactions was just as successful with teachers who had an associate’s degree as with teacher’s with an advanced degree. Not only did teachers display beliefs that were more aligned with developmentally appropriate practice, they were observed using higher rated teacher-child interactions in the classroom.

The literature consistently examines the impact of both adult attachment styles and teacher beliefs on teacher and student behaviors. However, there is little research that indicates how adult attachment and beliefs impact teacher sensitivity specifically.

Teacher Belief Measures

The *Beliefs About Infant Toddler Education and Care* (BAITEC; See Appendix A) tool designed by Anderson (2015) is used to measure what infant and toddler teachers believe to be important about the classroom and interactions with infants and toddlers. The tool has been edited to focus solely on developmentally appropriate practice for toddlers to fit the scope of this study. The authors deleted the word “infant” and substituted the words “baby” and “infant” for “toddler”. In addition, the word “bottle” was changed to “cup” and in question seven the author

substituted “grasping objects, sitting up, crawling, walking, stacking blocks” for “toilet training, walking, jumping, self-feeding” in alignment with developmental expectations for toddlers.

The BAITEC has been used primarily to determine the application of Planned Behavior Theory (PLT) in relation to infant and toddler teachers specifically. Anderson (2015), found that education level was a mediating factor in the connection between beliefs and practice in infant and toddler classrooms. The author indicates the potential to use the results of this tool to predict the quality of infant and toddler care outside of supplemental data that does not reflect teacher behaviors such as teacher-child ratio, group sizes, teacher training, teacher education level, and resource allocation. Likewise, the tool can be used to guide professional development practices as we know that implicit and explicit beliefs guide behavior (Anderson, 2015).

Adult Attachment Styles

Hazan & Shaver (1987) were some of the first to examine the impact of adult attachment on relationships. Researchers have found that adult attachment style affects romantic, sexual and caregiving behaviors. On the most basic level, someone with an insecure attachment style may demonstrate worry or discomfort in responding to others and avoid intimacy in relationships. Adult attachment style has been shown to predict both concurrent and future functioning in relationships (Hazan & Shaver, 1987). The relationships teachers form with adults and children are no exception (Ripski, et al., 2011).

Each adult attachment behavior is a function of early childhood experiences. Fraley (2015) details the categorical organization of adult attachment. Four general categories of attachment are defined as follows: *securely attached* individuals will score below the median on measures of anxiety and avoidance; *dismissive* individuals will score above the median for avoidance, and below the median for measures of anxiety; *fearful* individuals score about the

median on measures of anxiety and avoidance and finally, *preoccupied* individuals score above the median on measures of anxiety and below the median for measures of avoidance.

Researchers have found that initial attachment to a teacher often persists into adult behaviors that reflect either the secure or insecure nature of their infantile attachments. Because infantile attachment persists into adulthood caregiving behaviors, we see that adults are unconsciously (or explicitly) raising children with similar or same attachment behaviors their parents used. In other words, adults tend to behave the same way their parents behaved (Fraley, 2002).

Adult attachment styles impact teacher-child interactions. Ripski, LoCasale-Crouch, & Decker (2011) found that adult attachment style is a dispositional trait which impacts teacher-child interactions. Teacher dispositions are found to be more fixed than knowledge and are responsible for the implementation of what is known (Colker, 2008). In other words, without dispositions aligned with the profession, teachers are less likely to be effective because they do not have the ability to interact effectively (Colker, 2008; Ripski, et al., 2011). As attachment style impacts a variety of behaviors in adults, teacher's behaviors with children are impacted by attachment style as well. Furthermore, Bowlby states "adult attachment style refers to the way in which an adult individual interacts with and responds to others' emotional needs. According to attachment theory, individuals with a secure adult attachment style can perceive and respond to a range of emotional states and are better able to serve as a secure base to children" (Bowlby, 1969). However, it reasons that the converse is also true: insecure attachment is a barrier to serve as a secure base for children. Thus, accessible professional development is needed to identify and mediate insecure attachment behaviors in teachers.

Adult Attachment Measures

The *Experiences in Close Relationships- Revised* (ECR-R; See Appendix B) tool is a self-reporting measure used to assess adult attachment style. Adult attachment style had been found to be a function of infant attachment style. Fraley, (2002) found that attachment styles persist across an individual's life and impacts adult romantic, sexual, and caregiving behaviors. Therefore, the present study seeks to examine adult attachment style using the ECR-R to determine if attachment style is related to teacher beliefs about the education and care of toddlers and behaviors that contribute to teacher sensitivity, specifically.

The ECR-R “measures individuals on two subscales of attachment: Avoidance and Anxiety. In general, avoidant individuals find discomfort with intimacy and seek independence, whereas anxious individuals tend to fear rejection and abandonment” (Fraley, et. al., 2000). Researchers intend to determine the attachment style of the participants. If neither anxiety or avoidance is present, participants will be considered securely attached.

Teacher Sensitivity

Researchers are interested to see if and how teacher beliefs impact the teacher sensitivity and regard for child perspective domains of the CLASS tool, as we know teacher sensitivity has implications for child development (LaParo, et. al., 2012). Norris, Horm, & McMullen (2015) found that the classroom environment is dependent on teacher beliefs. Researchers studied the influence of teacher beliefs about infants and toddlers on their interactions with children. The classroom climate that is provided for children was found to be largely dependent on the nature of teacher's beliefs about young children (Ahnert, 2016). If teachers view toddlers as active participants in their learning, they are more likely to engage in emotionally sensitive and cognitively stimulating interactions in the classroom. (Degotardi & Sweller, 2012). The opposite

is also true. If teachers view children as needy, fragile and incapable they are more likely to provide lower quality interactions in the classroom (McMullen, 2010). Lower quality interactions can be associated with low teacher sensitivity. Teacher sensitivity impacts the greater scores on teacher-child interactions.

Researchers aim to quantify if participant teachers believe children are “competent interactionists” (McClure, 2009; McCartney & Harris, 2014), or hold some other belief and if this belief is related to adult attachment style, and teacher sensitivity. Teacher sensitivity is impacted by environment (Tonge, et. al., 2019), child temperament (Hartz & Williford, 2015), director satisfaction (Zinsser & Curby, 2014) and teacher education (Connors-Burrow, et al., 2017). Teacher sensitivity impacts the teacher-child relationship (Ahnert, 2016) and child behavior (Hartz & Williford, 2015).

Ahnert (2016) examined the nature of the teacher- child relationship and elaborated on Beckh and Becker-Stoll's (2016) assertion that teacher sensitivity is the main way by which teachers develop and improve relationships with their students. Furthermore, Ahnert (2016) comments on teacher sensitivity as being shaped by mental representations and might be reshaped through teacher education.

Hartz and Williford (2015) used data from the Early Childhood Longitudinal Study- Birth Cohort to examine to what degree teacher sensitivity in preschool predicts internalizing and externalizing behaviors in kindergarten. “Children who experience a classroom characterized by high quality childcare, including child-centered, positive interactions with their kindergarten teachers, are rated by their teachers as more competent and also demonstrate fewer behavior problems” (Hartz & Williford, 2015, p. 110). Researchers found that as predicted, higher sensitivity in caregiving was related to lower scores on measures of internalizing and

externalizing behaviors. This was found to be particularly true for children with negative emotionality.

Furthermore, Tonge, Jones, & Okely (2019) found that teacher sensitivity scores on the CLASS assessment were impacted by environmental factors. Free time and increased outdoor play, that are both recommended practices, were shown to increase teacher sensitivity and behavior guidance. “A significant relationship was reported between free routines and teacher sensitivity; higher CLASS scores were reported when more time was offered in the outside environment.” (Tonge, et al., 2019, p.36).

Zinsser and Curby (2014) examined the relationship between director satisfaction, teacher sensitivity and regard for child perspectives. Results suggest that “factors like enjoying work, belief that one is making a difference, and commitment to early childhood education are the kind of dimensions that contribute to a director's job satisfaction” (p. 7). This research indicates there is a relationship between directors' satisfaction at work and the emotional support teachers provide to children.

Teacher Sensitivity Measures

The *Classroom Assessment Scoring System* (CLASS; LaParo, et al., 2012) tool is used to identify, describe and assess the quality of interactions in early childhood classrooms. Hamre, et.al., (2012) found that when teachers took a 14-week course on effective teacher-child interactions using the CLASS tool that they had more intentional beliefs and a greater understanding of quality teacher-child interactions in the classroom. This was further supported by Grantham-Caston’s (2017) findings. When using the CLASS tool to aid in video self-reflection, teachers had improved interactions with children and increased opportunity for professional growth and collaboration with peers.

The CLASS tool has been used as a framework to quantify classroom interactions (Hamre & Pianta, 2009). The two domains of the CLASS Toddler are: Emotional and Behavioral Support and Engaged Support for Learning which are divided into eight dimensions of teacher-child interaction: positive climate, negative climate, teacher sensitivity, regard for child perspectives, behavior guidance, facilitation of learning and development, quality of feedback and language modeling (LaParo, et al., 2012). This study intends to target teacher sensitivity specifically (See Appendix C). Scores were collected by local and third-party observers prior to the present study. The researchers are certified observers using the Toddler CLASS tool but did not observe or score the participants of this study to ensure unbiased reporting.

Summary

Teacher beliefs, though varied, are a strong indicator of teacher behavior (Norris, et. al., 2015), pedagogical approach (Temiz, & Topcu, 2013), student interest (Upadyaya & Eccles, 2014) and student achievement (Muijs, & Reynolds, 2015). Researchers are interested however in the roots of teacher beliefs about toddler education and care, and how this impacts teacher sensitivity & regard for child perspectives.

It seems that after a thorough review of the literature, one might hypothesize that a relationship exists between teacher beliefs, attachment style, & teacher sensitivity. This study attempts to examine this relationship.

Chapter 3. Method

The purpose of this research study is to determine if a relationship exists between teacher beliefs about toddler care and education (as measured by the BAITEC), adult attachment style (as measured by the ECR-R), and teacher sensitivity (as measured by CLASS) at diverse research settings in the southern United States.

Research Question

The research questions guiding the study were: Is there a relationship between adult attachment style (as measured by the ECR-R tool), teacher beliefs about toddler care and education (as measured by the BAITEC tool) and teacher sensitivity (as measured by the CLASS tool)? Sub questions were: Is teacher attachment style related to teacher beliefs? (Part I) Is teacher attachment style related to teacher sensitivity? (Part II)

Settings

The study was conducted in diverse early learning environments in the Southern United States. All research sites were identified via the state's list of reported CLASS scores. From this list of 142 early childhood centers, 8 agreed to participate. See Table 1 for information on each participant site.

Table 1. Research Setting Information

Site ID	Star	Curriculum or	CLASS	Location	Ages	Student
	Rating	Philosophy	Score 2019		Served	Capacity
0001	4 Star	Reggio Emilia	5.69	University	Infants-	192
		Approach			Preschool	
0002	5 Star	Not Available	6.66	Church	Infants-	27
					Preschool	
0003	4 Star	Frog Street	5.30	Head Start	Infants-	57
					Preschool	
0004	N/A	Creative	N/A	Church	Infants-	87
		Curriculum &			Preschool	
		Regio Emilia				
		Approach				
0005	4 Star	Independence	5.65	Head Start	6 Weeks-	129
		& Confidence			12 Years	
0006	4 Star	Play Based	5.80	University	Toddlers-	50
					Preschool	
0007	3 Star	Individualized	5.05	Head Start	Infants-	72
		Instruction			Preschool	
0008	3 Star	Individualized	4.55	Private	Infants-	41
		Instruction			Preschool	

Participants

Twenty-two early childhood professionals from eight centers across one central geographical area in the Southern United States. The author determined using an effect size estimate that at least 93 participants are required for the data to be generalizable to the state level population. Participants were recruited using an online departmental database that lists CLASS scores for the 2018 and 2019 assessment periods published on the Department of Education website. One hundred and forty-two child care centers were identified as the participant pool. This list was then given to graduate students who developed a listserv with contact information for each center. Researchers distributed surveys to 22 child care center sites in person, and distributed to approximately 133 via email, in addition to the survey link being shared via email newsletters from three organizations. Contact information was only available for center directors, who served as the gatekeeper for recruitment of teachers. The inclusion criteria for participation were teachers over the age of 18 who teach typically developing children ages 12 to 36 months; exclusion criteria were those who teach children older or younger than toddlers aged 12 to 36 months or children that are not typically developing. Although 28 toddler teachers completed the online survey and 8 completed the paper and pencil survey, only 23 of the 36 completed both the ECR-R and the BAITEC, which was a response rate of .06%. The expected response rate was 66% (Corcoran & Steinley, 2019; Roberts, et al., 2017). Furthermore, demographic information was not obtained for one participant. Center directors were asked to disclose CLASS scores for each participant.

Instrumentation

Beliefs About Infant Toddler and Care. The *Beliefs About Infant Toddler and Care* (BAITC; Anderson, 2015) tool is used to measure what infant and toddler teachers believe to be

important about the classroom and interactions with infants and toddlers. The tool has been edited to measure only beliefs about developmentally appropriate care and education for toddlers, to fit the scope of this study. For example, researchers changed question one from “When infants and toddlers start childcare, it is ____ that both parent(s) and baby spend time in the new classroom together.” to read “When toddlers start school, it is ____ that both parent(s) and toddler spend time in the new classroom together.” The meaning has not been changed, only the indicators of the targeted age group. The results of the BAITEC is a composite score. When a participant’s score was in alignment with developmentally appropriate practice (DAP) they can be expected to score higher than a participant whose beliefs are not in alignment with DAP.

Experiences in Close Relationships - Revised. The Experiences in Close Relationships - Revised (ECR-R; Fraley, et. al., 2000) tool was used to measure attachment styles in adults. The tool was designed to allow adults to self-report relationship behaviors to indicate the presence of avoidant or anxious tendencies. This tool was scored using a composite score and an average for items in anxious and avoidant categories. This was then compared to the median scores from Fraley’s (2000) original study and categorized. Results are grouped into four categories based on the participant’s rating on each item above the median for the group. Participants that score above the median on measures of anxiety are considered preoccupied. Likewise, participants that score above the median on measures of avoidance are considered dismissive. Participants that score above the median on measures of both anxiety and avoidance are considered fearfully attached. If a participant does not indicate anxiety or avoidance above the median score for each item, they are considered to have secure attachment (Fraley, 2000).

Classroom Assessment Scoring System. The *Classroom Assessment Scoring System* (CLASS) was used to measure the quality of teacher-child interactions in toddler classrooms

(LaParo, et al., 2012). The *Toddler Classroom Assessment Scoring System* has four dimensions within the domain of *Emotional and Behavioral Support*. One of which was examined in this study: *Teacher Sensitivity*. Within the state where the study was conducted, two CLASS reliable observers assess classrooms separately and report scores to the state department of education. The average of these scores was used to assign centers into performance classifications (e.g., *proficient, emerging proficient, excellent*). All observers attend the CLASS reliability training and are recertified each year. The most recent CLASS scores for the dimensions of Teacher Sensitivity were examined for this study.

Procedure

Institutional Review Board approval was obtained from the researcher's university and participant consent was obtained (See Appendix D). The present study complied with recommended practices for online survey distribution as defined by Saleh and Bista (2017). Recommended practices are as follows:

(1) Elicit the aid of authority figures, known personnel or organizations to the target population to distribute the survey, when possible. (2) Target a population that is more likely to hold interest in the research. (3) Consider offering an incentive for completing the survey. (4) Make every effort to craft a survey that is short and concise. (5) Inform the population in the invitation letter of the approximate time it will take to complete the survey. (6) Whenever possible, reduce the number or eliminate open-ended survey items. (7) Assure the participants of the anonymity and confidentiality of their responses. (8) Explain how the collected data will be handled, who will have access to them, and how the data will be stored and/or disposed of after the study is completed. (9)

Personalize invitations to participate in the study and make them look professional. (10) Send at least one, but not more than three, reminders to the target population to motivate them to complete the survey. (11) Be aware of the time constraints related to time-of-year for the target population (p.71).

Furthermore, Saleh & Bista (2017) found that “participants prefer completing electronic surveys received mostly from students, colleagues and authority figures (e.g. department chair or higher) compared to people from other organizations who they do not know personally or professionally” (p.70).

Participant sites were identified through an online departmental database that lists CLASS scores for each early childhood center in the state. One hundred and forty-two centers were identified as the participant pool. The total number of teachers in each center was unknown to the researcher as center directors act as gatekeepers for engagement with the teachers. Of the 8 centers that consented to participate, 23 teachers agreed to participate in the present study. Center directors were expected to disclose CLASS scores for each participant, however only 7 were reported.

Part I. The revised BAITEC measure and the ECR-R measure were distributed to each participant by hand with a self- addressed envelope and paid postage allowing participants to complete the surveys when it was most convenient reflects the researchers’ respect for the the classroom routine and the time it takes to thoughtfully complete the measures. so the participants had the opportunity to complete them when it was most convenient as the researcher sought to respect the classroom routine and the time it takes to thoughtfully complete the measures. After a low response rate, the researcher began to distribute the survey via email to the list of directors identified at the 142 centers, and with QR codes at professional conferences and gatherings of

early childhood teachers. The researcher assigned each participant a numerical ID to ensure anonymity and consistent record keeping amongst the three measures. This was done via an electronic spreadsheet. Participants were entered into a drawing for a \$100 gift card when the researcher received the measures within two weeks of the date of distribution to incentivize timely and adequate response rates. The gift card was awarded by email to a participant selected through random drawing.

Part II. Once survey collection was complete, the researchers contacted center directors to obtain CLASS scores for teachers. Only 7 of 23 CLASS scores were obtained. Researchers intended to analyze the data using a two-way ANOVA to determine the significance of perceived relationships between attachment style and teacher beliefs, and attachment style and teacher sensitivity. However, because of the low return rate (.06%) researchers used descriptive statistics and chi squares to examine the data.

Data Analysis

Descriptive statistics were run on the 23 data sets that were obtained using IBM SPSS 26, as the sample was not large enough for an ANOVA to be used. Once the raw data from the survey were derived through Qualtrics, it was deidentified and organized using Microsoft Excel and IBM SPSS 26, the data were then analyzed further to gain an understanding of the 23 frequencies of response. Qualtrics presented quantitative data in values, percent of the whole, and through visuals (bar graphs and column charts). This data were then placed into Microsoft Excel to be organized into figures (seen in the *Results* section). Six figures were used to represent the demographic data from the participants. The graphs and figures report the modes, or frequencies, of responses given by participants.

Along with the figures created, four chi square tests of independence were run to determine the significance of the variables being measured ((1)education level and attachment classification, (2) years of experience and attachment classification, (3) education level and teacher sensitivity, (4) years of experience and teacher sensitivity). Chi square can be used to analyze differences in groups when the dependent variable is nominal. This detailed information benefits the researcher as it allows the researcher to understand groups. However, chi square is limited by the sample size requirements, and low correlation measures, even for highly significant results (McHugh, 2013). Chi square is a test of statistical significance that measures the association between two categorical variables (McHugh, 2013). The chi square (χ^2) statistic measures how expectations compare to actual observed data.

Design

A non-experimental research design was used in this study. Survey research (Walston, et. al., 2017) was implemented here to quantify a (hypothesized) existing relationship amongst three variables. The expected return rate for survey research in the field of education was 66% (Corcoran & Steinley, 2019; Roberts et al., 2017). Survey research can be used to assess needs, attitudes, beliefs, and perceptions (Walston et al., 2017). Researchers chose to employ this method as it can be used to inform policy and practice. Researchers administered the measures in-person and online to participants to ensure a high return rate (Corcoran & Steinley, 2019). The participant cohort was composed of teachers that serve children ages 12-36 months in diverse early learning environments in the Southern United States.

Chapter 4. Results

The present study sought to determine if a relationship exists between adult attachment style (as measured by the ECR-R tool), teacher beliefs about toddler care and education (as measured by the BAITEC tool) and teacher sensitivity (as measured by the CLASS tool). The two sub questions sought to determine if teacher attachment style related to teacher beliefs and if teacher attachment style related to teacher sensitivity.

Descriptive statistics are presented but inferential analyses were not conducted, due to a small sample size due to low return rates. Researchers distributed to 22 sites in person, and 133 via email. Only 23 out of the 36 total participants completed both the ECR-R and the BAITEC. Furthermore, researchers were only able to obtain CLASS scores for 7 of 36 participants. Because of low return rate, data were analyzed using descriptive statistics.

Descriptive Statistics

Experience. All participants were current teachers of young children ages 12 to 36 months. Mean years of experience was 10.7 years, and the median experience was 10 years. Six participants had 0-5 years of experience (28%), five participants had 6-10 years of experience (23%), five had 11-20 years of experience (23%) and five had 21-30 years of experience (23%) (see Figure 1). Preschool and childcare center directors average less than 5 years of experience nationally. Childcare workers, however, have little or no experience. (U.S. Bureau of Labor Statistics, 2019).

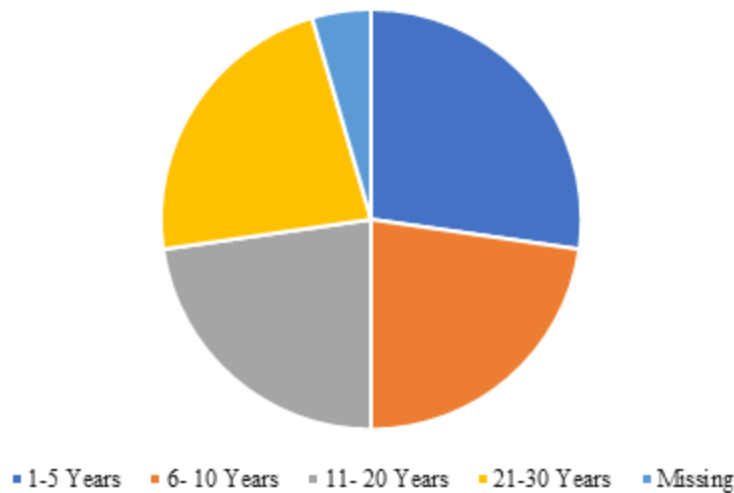


Figure 1. Teacher Experience in Years

Education. One participant had no education beyond a high school diploma (4.3%), 11 participants had CDA or Early Childhood Ancillary Certificate (47.8%), two participants had an associate degree (8.7%), four participants had bachelor degrees (17.4%), and three participants had a master's degree (13%) (see Figure 2). Seminal research on child care found that formal education was a better predictor than specialized training (Howes et al., 1992). Nationally, 93% of individuals have a high school diploma or GED, 47% of individuals have an associate degree or equivalent, 37% have a bachelor's degree, and only 9% of individuals have a master's degree or higher (National Center for Educational Statistics, 2019).

Gender. Similar to national data which reports that 76% of child care providers are female (U.S. Bureau of Labor Statistic, 2019), in the present study all participants were female.

Race. However, the current sample differed from national data, as 65% (n=15) of participants in the present study were black or African American (as compared to 17% in the national sample) and 26% (n=6) of participants in the present study were white or Caucasian (as compared to 76% in the national sample) (see Figure 3).

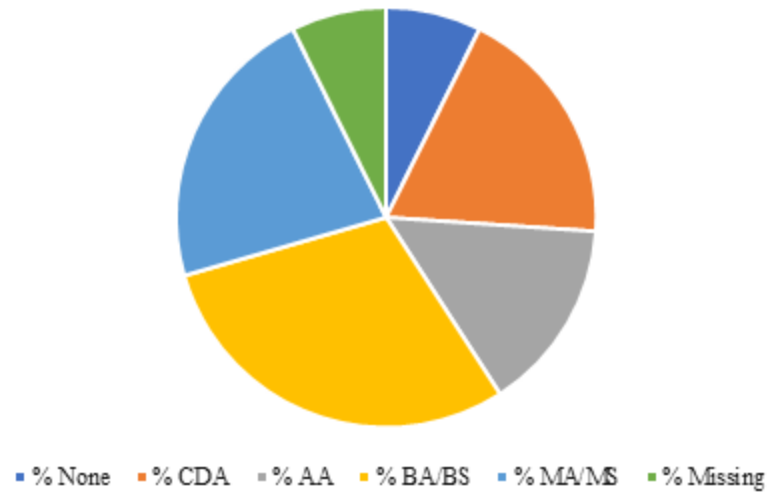


Figure 2. Teacher Education Level

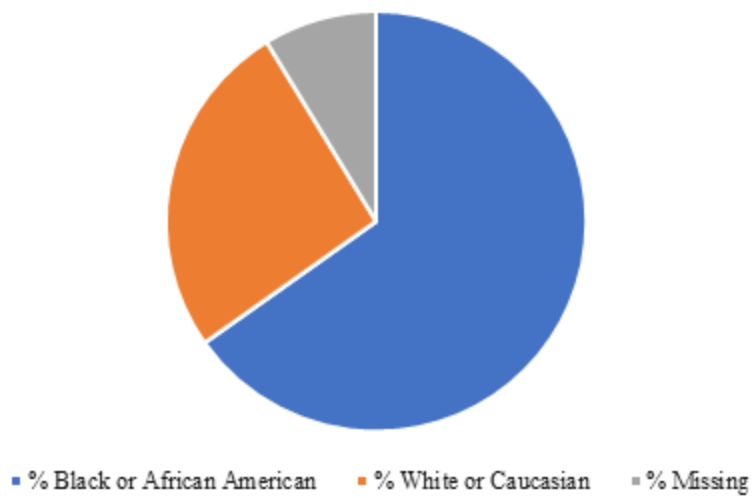


Figure 3. Teacher Race & Ethnicity

Age. The U.S. Bureau of Labor Statistics (2014) reports that the median age of child care providers was 39 years, which was similar to our sampled population of toddler teachers (41 years). Four participants were 18-21 (19%), four participants were 22-30, (19%), two participants were 31-40 (9%), 4 participants were 41-50 (19%), and five participants were 51-65 (23%) (see Figure 4).

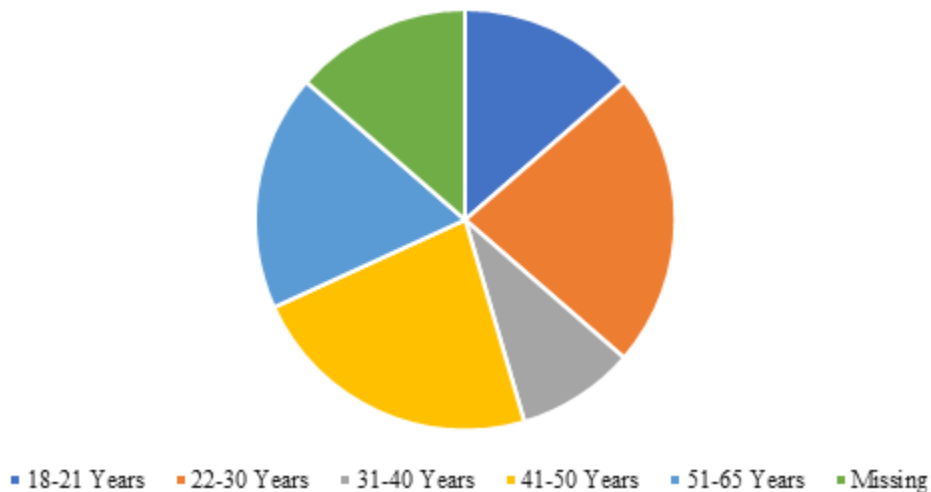


Figure 4. Teacher Age in Years

Attachment Styles. *Secure* attachment represented approximately 8.7% (n=2) of the sample. *Dismissing attachment* was the largest attachment group at 52.2% (n=12), followed by *preoccupied attachment* representing 30.4% (n=7), and lastly *fearful attachment* represented only 4.3% (n=1) (see Table 2). Previous research indicates that approximately 70% of individuals have *secure attachment*, 10% have *dismissing attachment*, 10% have *preoccupied attachment*, and 10% have *fearful attachment* (Ainsworth, et. al., 1978; Fraley, 2002).

Table 2. ECR-R Attachment Style

Attachment Style	Frequency	Percent
Secure	2	8.7
Dismissing	12	52.2
Fearful	1	4.3
Preoccupied	7	30.4
Missing	1	4.3

Furthermore, despite Fraley's (2002) research on adult attachment outlining secure attachment as representing 70% of the original adult population, we see that in our sample secure attachment represents less than a mere 10% (see Table 1).

A chi square test of independence was performed and a significant relationship was found between education level and adult attachment style, $X^2 (12, N = 23) = 23.56, p = .023$. Secure attachment is likely related to higher educational attainment. Furthermore, another chi square test of independence was performed to determine if there was a significant relationship between years of experience and attachment style, $X^2 (9, N = 21) = 5.3, p = .806$. No relationship was found.

Teacher Beliefs. When examining teacher scores on the BAITEC measure researchers found an average of 81 (r=65-160) and a distinct trendline that was consistent with the average and at approximately half the questions in alignment with developmentally appropriate practice (DAP). Only one participant scored in the 90 to 100th percentile for questions marked consistent with best practices. Their score was 160 out of 161 possible points in accordance to DAP (Figure 5). Anecdotally, this participant has a *dismissing attachment* style. No CLASS scores were obtained for this participant.

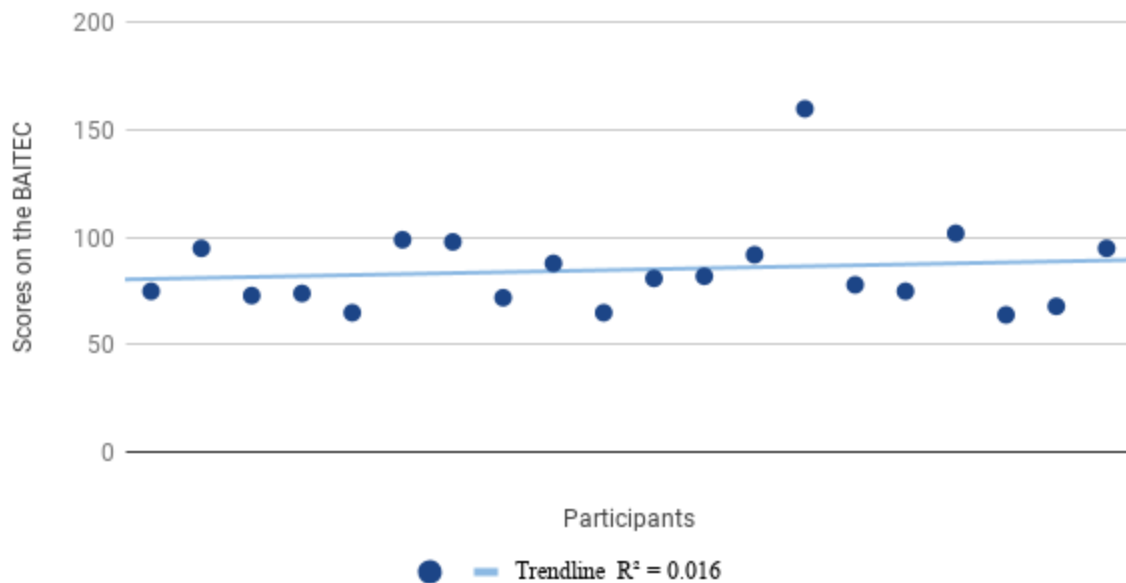


Figure 5. Individual Scores on the BAITEC

Teacher Sensitivity. No participants scored less than a 5 on the Teacher Sensitivity domain of the CLASS assessment. Two participants scored between 5-5.99 (28%), two participants scored between 6-6.99(28%), and three participants scored a 7(42%).

A chi square test of independence was performed to determine if there was a relationship between teacher sensitivity and education and there was not a significant relationship, $X^2 (6, N =$

23) = 7, $p = .321$. Furthermore, another chi square test of independence was performed to determine if there was a relationship between teacher sensitivity and years of experience, $X^2 (6, N = 23) = 9.3, p = .156$. There was no relationship found.

Teacher Beliefs, Adult Attachment, & Teacher Sensitivity

There were significant trends in attachment styles and CLASS scores for sites that had more than one participant. Four sites were examined that had more than one participant (See Table 3). The site with one secure participant and one dismissing participant has the highest average score on the BAITEC measure of developmentally appropriate teacher beliefs (See Table 3). Furthermore, participants from sites with higher percentages of participants with preoccupied and dismissing attachment styles are likely to have lower BAITEC scores. Interestingly enough, the site with the highest average score on the BAITEC is the site with the lowest average Teacher Sensitivity CLASS scores.

Table 3. Teacher Beliefs, Attachment Style, & Teacher Sensitivity Scores by Site

Site ID	Number of Participants	Attachment Style Frequency (ECR-R)			Teacher Sensitivity Participant Average (CLASS)	Site Teacher Sensitivity (CLASS) Score	Teacher Beliefs Participant Average (BAITEC)
		Dismissing	Fearful	Preoccupied			
0001	5	N=2; 40%	N=0	N=3; 60%	6.56	5.69	75.75
0003	4	N=1; 25%	N=1; 25%	N=2; 50%	No CLASS score obtained	5.30	84.5
0004	4	N=3; 75%	N=0	N=1; 25%	6.33	N/A	80.5
0007	2	N=1; 50%	N=0	N=0	No CLASS score obtained	5.05	119

Summary

A chi square test of independence suggests that adult attachment and education level are related. Age and gender were consistent with population averages, however, educational attainment, race, attachment style and beliefs all varied from the national averages suggesting that the sample is not representative of toddler teachers across the nation.

Chapter 5. Discussion

The guiding question for the present study sought to determine if there was a relationship between adult attachment style (as measured by the ECR-R tool), teacher beliefs about toddler care and education (as measured by the BAITEC tool) and teacher sensitivity (as measured by the CLASS tool). The two sub questions sought to determine if teacher attachment style was related to teacher beliefs, and if teacher attachment style was related to teacher sensitivity. Results from the present data were inconclusive.

Though, the participant number was small, results suggest that participants had a uniquely insecure attachment trend, and fairly low congruence with developmentally appropriate practice (DAP). More work should be done to determine if this relationship was significant, and if this can be attributed to education level or training. Furthermore, researchers found that directors were reluctant to disclose CLASS scores, as only 7 out of 32 were obtained. We suspect this was due to fear that the scores would be used to misrepresent their center. When researchers asked directors why they would not share their CLASS scores, there was no response.

Research Sub Question 1. However, to answer the first sub question, “Is teacher attachment style related to teacher beliefs?” researchers found a general trend in insecure attachment style and low congruence with DAP. Consistent with Ripski, et al., (2011), researchers found attachment style to be dispositional trait that impacts beliefs. As Bowlby’s (1969) seminal work indicates, insecure attachment is a barrier to teachers acting as a secure base for children.

Furthermore, researchers found that education and attachment style are related. Teachers who are more educated produce better outcomes for young children (Phillips, et. al., 2016). Phillips, Austin, & Whitebook (2016) state “whether early childhood teachers can meet high

expectations will hinge largely on whether we align the content of their professional training and development- and the infrastructure that surrounds it- with the knowledge and skills that the science of early development now tells us are essential to teachers' effectiveness" (p.150).

The relationship between education and attachment style is consistent with McMullen & Alat's (2002) work on the relationship between education and teacher beliefs. It reasons that the securely attached teacher will likely be more supported to obtain a higher degree of education and therefore, will be more likely to have beliefs that align with developmentally appropriate practice (DAP). Furthermore, this research supports the resounding call for quality professional development and education for teachers in the childcare workforce (McMullen & Alat, 2002; Phillips, et. al., 2016; Ripski, et. al., 2011).

Research Sub Question 2. To answer the second sub question, "Is teacher attachment style related to teacher sensitivity" previous research found that attachment style impacts behavior in the classroom (Colker, 2008). Classroom environment as measured by the CLASS tool, of which teacher sensitivity is a component, is found to be dependent on the teacher's beliefs, and therefore attachment style. Teachers are more likely to be sensitive if they are educated (Gerber, et. al., 2007).

Gerber, Whitebook, & Weinstein (2007) found that teacher training was related to teacher sensitivity. This is further supported by the relationship between attachment and education. As education increases, so does teacher sensitivity. Educated teachers are more responsive, and more likely to scaffold to meet the needs of children in their care (Gerber, et. al., 2007). Consistent with Thomason & LaParo (2009) researchers suggest that education will improve attachment behaviors, teacher beliefs, and teacher sensitivity.

One interesting finding is the frequency of dismissing attachment style. This is inconsistent with the seminal research from Fraley (2000). Teachers with dismissing attachment style represent 52.2% (n=12) of the sample. Fraley's (2000) findings indicate that dismissing attachment style only represents 10% of the adult population. This discrepancy could be explained by the occupation of all the participants being the same. Furthermore, all participants in the present study were female. Fraley's original population was comprehensive, adults of all ages, occupations, and genders. Authors hypothesize that female teachers of young children are drawn to the profession to compensate for lack of secure attachment behaviors in childhood and because of societal pressures for women to seek careers that are consistent with caregiving behaviors. It reasons that individuals who were insecurely attached as young children (due to a variety of factors including abuse, and neglect) would grow to want to provide secure care for children. Adults want to treat children better than they were treated.

Based on this sample authors can conclude that teachers with insecure attachment styles are likely to hold beliefs that are inconsistent with developmentally appropriate practice. Only one participant had beliefs that were consistent with DAP (160/161). All other participants scored around 50% of the items correct (average=81/161).

Furthermore, for teachers of which CLASS scores were obtained, teachers scored fairly well on indicators of teacher sensitivity. This is a curious finding as 52.2% of teachers had an insecure attachment style and beliefs that were inconsistent with developmentally appropriate practice. It is possible that teachers with insecure attachment are more likely to be sensitive to the needs of young children, because their needs were not always met.

Limitations & Delimitations

Both in person, paper distribution and online survey distribution were used in this study. Research indicates that paper survey distribution is more effective than online distribution. However, if online surveys are distributed actively and reminders are given Nulty (2008) suggests response rate is predictably higher. Nardi, (2018) describes limited computer skills or access to technology as a limitation.

Furthermore, participants self-reported on measures of beliefs and attachment classification. Due to the personal nature of these questions, participants might have exaggerated or minimized their responses. Self-reporting measures are less reliable (Walston, et al., 2017) than other forms of quantitative data collection. Survey research can only quantify what teachers perceive about themselves and others. Moreover, it is likely that researcher bias affected the data at the site affiliated with the researcher's program of study (Mertler, 2018).

Convenience sampling results in outliers due to its non-random nature which is likely to influence the descriptive statistics (Farrokhi & Mahmoudi-Hamidabad, 2012). Furthermore, there was no concurrent validity for the ECR-R and BAITEC. Researchers did not check for participant agreement with their scores (Kaplan, 2001).

Chi square test of independence was used in this study. Though there are many benefits to using this method of analysis, it is best used when participants are selected randomly and with a large sample size (McHugh, 2013). Considering this study was neither randomized nor had a large sample, this can be considered a limitation.

Lastly, the COVID- 19 pandemic significantly halted the researcher's ability to do in person distribution (Clay, 2020) during the latter phase of distribution. Because of the pandemic, participants were more stressed, and less likely to be responsive to requests to fill out the survey.

Researchers believe that the response rate would have increased if not for the COVID- 19 pandemic.

Clinical Implications

Adult attachment style and education level were found to be significantly related. Because the majority (60%) of the participants have little or no education beyond the K-12 system, it is meaningful that their beliefs and behaviors are more in congruence with the way they were parented than developmentally appropriate practice. There are many explanations for this variance, which would of course only be speculative, but one in particular is of interest; in this sample dismissing attachment was the most common in the sample (53%) and teacher beliefs are likewise low in congruence with developmentally appropriate practice (DAP).

We know that educated teachers are more likely to provide appropriate, supportive, and responsive care for young children, so this much become a priority systematically and personally. Teachers must hold themselves accountable for their professional development and educational attainment. Administrators will benefit from hiring qualified and educated teachers and paying them accordingly. Lastly, policy makers should consider this evidence when allowing childcare workers to be the least education, and most poorly paid in the field of education.

Formal education leads to better outcomes for children as beliefs and behaviors align with developmentally appropriate practice. Because education is the only variable found to be related to attachment style and teacher sensitivity, it is my hope that professional development, and the pursuit of higher education can help bridge this gap for teachers in my community and beyond.

Recommendations for Further Research

This study was unfortunately interrupted due to the COVID-19 pandemic in the spring of 2020 (Clay, 2020). No data were collected once the stay-at-home order was initiated. Fraley's (2000) seminal research on adult attachment outlines secure attachment as representing 70% of the original adult population. In our sample secure attachment represents less than a mere 10% (see Table 1). Researchers suggest that further research should be conducted to substantiate this finding and attempt to determine the cause of this trend. A larger and more diverse sample size is needed to truly examine the relationship between attachment style, teacher beliefs, and teacher sensitivity in toddler teachers. Furthermore, assuming there was a correlation between adult attachment style, teacher beliefs and teacher sensitivity, further research is needed to determine the effect of quality professional development on the beliefs and behaviors of toddler teachers.

Conclusion

Results of the present study were inconclusive. The sample size was not large enough to run a statistical analysis to address the overall research question on the relationship between adult attachment style, teacher beliefs and teacher sensitivity. However, chi square analysis revealed that a significant relationship exists between caregiver attachment style and education level. In consideration of the present findings, and other research that reports that children who have more educated caregivers have more positive outcomes, this evidence appears to support a call for a more educated toddler teacher workforce.

Appendix A- Revised Beliefs About Infant Toddler Education and Care

(BAITEC)

Directions: Please read each of the items carefully and CIRCLE a number on the scale from 1 to 5 to fill in the blank, depending on how IMPORTANT YOU BELIEVE each item is to infant care. Base your answers on your PERSONAL OPINION of each item.

1	2	3	4	5
Not at all important	Somewhat unimportant	Neutral	Somewhat important	Extremely important

1. When toddlers start childcare, it is ____ that both parent(s) and child spend time in the new classroom together.	1	2	3	4	5
2. Feeding toddlers when they are hungry, changing their diapers as needed, and putting them down for a nap when they are tired, according to their own schedule is ____.	1	2	3	4	5
3. Involving families in all decision-making about caregiving routines such as sleeping, eating, napping, and changing diapers/nappies in the childcare setting is ____.	1	2	3	4	5
4. It is ____ for toddlers to be able to have free choice in activities and access to toys and materials in both indoor and outdoor environments.	1	2	3	4	5
5. It is ____ to help toddlers learn to hold their bottles as soon as they can.	1	2	3	4	5
6. It is ____ for all toddlers to go outside on a daily basis, unless the weather conditions are severe or the temperatures extreme.	1	2	3	4	5
7. The teacher's role in training or teaching toddlers to achieve important developmental milestones like grasping objects, sitting up, crawling, walking, stacking blocks, etc. is ____.	1	2	3	4	5
8. It is ____ for toddlers to learn through interaction with their peers.	1	2	3	4	5
9. Getting through routine chores such as changing diapers/nappies, feeding, getting toddlers down to nap as quickly as possible is ____ in toddler classrooms.	1	2	3	4	5
10. It is ____ that changing (diapers/nappies), feeding, and sleeping follow a set schedule for the whole group.	1	2	3	4	5
11. It is ____ for infant toddler practitioners to provide information and connect families to needed resources.	1	2	3	4	5
12. Allowing babies to "cry-it-out" is ____ as long as they are safe.	1	2	3	4	5
13. It is ____ for toddlers to move up to a new room when they achieve certain milestones, like becoming steady on their feet, walking, or having their first, second and third birthdays.	1	2	3	4	5
14. It is ____ to put non-mobile infants into baby equipment (e.g., walkers, bumbos, baby seats, etc.) during playtime.	1	2	3	4	5
15. It is ____ to keep non-mobile and mobile infants and toddlers separated from one another during free play.	1	2	3	4	5
16. It is ____ to provide books and other images around the room that represent diversity in terms of culture, gender, ability, race, religion, ethnicity, and any other differences that represent the community and the families in the program.	1	2	3	4	5
17. Having as many adults helping out in an infant toddler room (whether familiar and unfamiliar) is ____ at all times; the more adult hands available working with children, the better.	1	2	3	4	5
18. It is ____ to limit the number of popular toys in the toddler classroom so that they can learn lessons in sharing with their friends.	1	2	3	4	5
19. It is ____ to prepare toddlers for school by having toys and activities that support learning the alphabet, numbers, shapes, colors, and counting.	1	2	3	4	5
20. It is ____ for practitioners to use techniques such as giving rewards, positive and negative reinforcement, and reprimands/punishment to manage behavior in classrooms with toddlers.	1	2	3	4	5
21. Involving families in ALL decision-making about policies related to the care and education of their toddlers in the childcare setting is ____.	1	2	3	4	5
22. Changing rooms and having different adults taking care of toddlers periodically is ____ in preparing them for	1	2	3	4	5

the primary school structure.					
23. It is ____ to help infants learn to feed themselves solid food as soon as they can.	1	2	3	4	5
24. It is _____ for teachers to show love and affection to toddlers.	1	2	3	4	5

Appendix B- The Experiences in Close Relationships- Revised Questionnaire

Scale:

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling a number to indicate how much you agree or disagree with the statement.

	QUESTION	1=Strongly Disagree.....7=Strong Agree						
1.	I'm afraid that I will lose my partner's love.	1	2	3	4	5	6	7
2.	I often worry that my partner will not want to stay with me.	1	2	3	4	5	6	7
3.	I often worry that my partner doesn't really love me.	1	2	3	4	5	6	7
4.	I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
5.	I often wish that my partner's feelings for me were as strong as my feelings for him or her.	1	2	3	4	5	6	7
6.	I worry a lot about my relationships.	1	2	3	4	5	6	7
7.	When my partner is out of sight, I worry that he or she might become interested in someone else.	1	2	3	4	5	6	7
8.	When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.	1	2	3	4	5	6	7
9.	I rarely worry about my partner leaving me.	1	2	3	4	5	6	7
10.	My romantic partner makes me doubt myself.	1	2	3	4	5	6	7
11.	I do not often worry about being abandoned.	1	2	3	4	5	6	7
12.	I find that my partner(s) don't want to get as close as I would like.	1	2	3	4	5	6	7
13.	Sometimes romantic partners change their feelings about me for no apparent reason.	1	2	3	4	5	6	7
14.	My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
15.	I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.	1	2	3	4	5	6	7
16.	It makes me mad that I don't get the affection and support I need from my partner.	1	2	3	4	5	6	7
17.	I worry that I won't measure up to other people.	1	2	3	4	5	6	7
18.	My partner only seems to notice me when I'm angry.	1	2	3	4	5	6	7
19.	I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
20.	I feel comfortable sharing my private thoughts and feelings	1	2	3	4	5	6	7
21.	I find it difficult to allow myself to depend on romantic partners.	1	2	3	4	5	6	7
22.	I am very comfortable being close to romantic partners.	1	2	3	4	5	6	7
23.	I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
24.	I prefer not to be too close to romantic partners.	1	2	3	4	5	6	7
25.	I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
26.	I find it relatively easy to get close to my partner.	1	2	3	4	5	6	7
27.	It's not difficult for me to get close to my partner.	1	2	3	4	5	6	7
28.	I usually discuss my problems and concerns with my partner.	1	2	3	4	5	6	7
29.	It helps to turn to my romantic partner in times of need.	1	2	3	4	5	6	7
30.	I tell my partner just about everything.	1	2	3	4	5	6	7
31.	I talk things over with my partner.	1	2	3	4	5	6	7
32.	I am nervous when partners get too close to me.	1	2	3	4	5	6	7
33.	I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
34.	I find it easy to depend on romantic partners.	1	2	3	4	5	6	7
35.	It's easy for me to be affectionate with my partner.	1	2	3	4	5	6	7
36.	My partner really understands me and my needs.	1	2	3	4	5	6	7

Appendix C- CLASS

Teacher Sensitivity

This dimension encompasses the teacher's responsiveness to and awareness of children's individual needs and emotional functioning. The extent to which the teacher is available as a secure base (being there to provide comfort, reassurance, and encouragement) is included in this rating.

Awareness

- Is attentive to children throughout the classroom
- Notices difficulties or children who are upset

Low (1,2)

The teacher does not monitor children for cues and/or consistently fails to notice when children need extra support or assistance.

Mid (3,4,5)

The teacher is sometimes attentive to children and their cues. Sometimes the teacher fails to notice children's difficulties or needs. The teacher may be more attentive to children during different activities or times of day.

High (6,7)

The teacher is consistently attentive to children, notices their cues, and is aware when children have difficulties and needs.

Responsiveness

- Responds to children's bids for attention
- Acknowledges and accepts emotions
- Provides comfort

The teacher fails to respond to children's needs or bids for attention and/or may be dismissive of their emotions and needs for attention, comfort, and support.

The teacher inconsistently responds to children. At times the teacher responds to their needs and/or bids for attention, but at other times their needs for attention, comfort, or support are dismissed.

The teacher consistently responds to children's needs and bids for attention and provides comfort and assurance to the children.

Child comfort

- Freely approaches and participates
- Seeks support
- Genuine problem resolution

The children appear uncomfortable interacting with the teacher or participating in activities. Children's problems and concerns may not be resolved.

The children sometimes seek out the teacher's support and sometimes appear comfortable interacting with the teacher. Some of the children's problems or concerns may be resolved, but at other times these problems continue without resolution.

The children appear comfortable seeking support from the teacher, interacting with the teacher, and participating in activities. Their problems and concerns are consistently resolved.

KCLASS

OBSERVATION SHEET

Teacher: _____ Observer: _____
 Start time: _____ End time: _____
 Number of adults: _____ Number of children: _____

ACTIVITY (circle all; check majority)
 Free choice/interest areas
 Routine

Transition
 Group time

GROUPING
 Whole group
 Small group
 Individual

CONTENT (circle all; check majority)

Lit/lang arts
 Social studies
 Math/numbers
 Art
 Music/movement
 Science

Other: _____

Circle appropriate score.

Positive Climate (PC) <ul style="list-style-type: none"> Relationships Positive affect Respect 	Notes	1 2 3 4 5 6 7
Negative Climate (NC) <ul style="list-style-type: none"> Negative affect Punitive control Teacher negativity Child negativity 	Notes	1 2 3 4 5 6 7
Teacher Sensitivity (TS) <ul style="list-style-type: none"> Awareness Responsiveness Child comfort 	Notes	1 2 3 4 5 6 7
Regard for Child Perspectives (RCP) <ul style="list-style-type: none"> Child focus Flexibility Support of independence 	Notes	1 2 3 4 5 6 7
Behavior Guidance (BG) <ul style="list-style-type: none"> Proactive Supporting positive behavior Problem behavior 	Notes	1 2 3 4 5 6 7
Facilitation of Learning and Development (FLD) <ul style="list-style-type: none"> Active facilitation Expansion of cognition Children's active engagement 	Notes	1 2 3 4 5 6 7
Quality of Feedback (QF) <ul style="list-style-type: none"> Scaffolding Providing information Encouragement and affirmation 	Notes	1 2 3 4 5 6 7
Language Modeling (LM) <ul style="list-style-type: none"> Supporting language use Repetition and extension Self- and parallel talk Advanced language 	Notes	1 2 3 4 5 6 7

Appendix D- Internal Review Board Application

Application for Exemption from Institutional Oversight

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, All LSU research/ projects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This form helps the PI determine if a project may be exempted, and is used to request an exemption.

– Applicant, Please fill out the application in its entirety and include the completed application as well as parts B-F, listed below, when submitting to the IRB. Once the application is completed, please submit the completed application to the IRB Office by e-mail (irb@lsu.edu) for review. If you would like to have your application reviewed by a member of the Human Subjects Screening Committee before submitting it to the IRB office, you can find the list of committee members at <http://sites01.lsu.edu/wp/cred/human-subjects-screening-committee-members/>.

– A Complete Application Includes All of the Following:

- (A) This completed form
- (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
- (C) Copies of all instruments to be used.
*If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
- (D) The consent form that you will use in the study (see part 3 for more information.)
- (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: <https://about.citiprogram.org/en/homepage/>
- (F) Signed copy of the IRB Security of Data Agreement: <http://www.lsu.edu/research/downloads/IRB-Security-of-Data-Agreement-Form.pdf>

1) Principal Investigator: Jeanette Bankston Rank: Student

Dept: Curriculum & Instruction, Early Child PH: 479-420-6918 E-mail: jbank53@lsu.edu

2) Co-Investigator(s): please include department, rank, phone and e-mail for each. If the co-investigator resides in the EU, a GDPR consent form must be signed by the co-investigator prior to study submission for IRB approval.
*If the Principal Investigator is a student, identify and name supervising professor in this space
Cynthia DiCarlo, Early Childhood Education, Professor, 504-430-0636, cdcicar2@lsu.edu

3) Project Title: The Relationship Between Adult Attachment, Teacher Beliefs About Toddler Education and Care & Classroom Climate

4) Proposal? (yes/no) ☒ No If Yes, LSU Proposal Number

Also, if YES, either ☐ This application completely matches the scope of work in the grant
OR ☐ More IRB Applications will be filed later

5) Subject pool (e.g. Psychology students) Teachers over the age of 18 who teach typically developing children ages 12 to 36 months; exclusion criteria: those who teach children older or younger than toddlers and
*Indicate any "vulnerable populations" to be used: (children <18 the mentally impaired, the aged, other).
*Projects with incarcerated persons cannot be exempted.

6) Does your study include participants (counting MTurk) in the 28 member states of the EU or the three additional countries? ☐ Yes ☒ No
(Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, UK, Norway, Iceland, Lichtenstein)

7) PI Signature Jeanette Bankston Date 11/26/2019
(no per signatures)

** I certify my responses are accurate and complete. If the project scope or design later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time, the consent forms should be preserved in the Departmental Office.

Screening Committee Action: ☐ Exempted ☐ Not Exempted Category/Paragraph

Signed Consent Waived?: ☐ Yes or ☐ No

Reviewer Signature Date



Part 1: Determination of "Research" and Potential for Risk

- This section determines whether the project meets the Department of Health and Human Services (HHS) definition of research involving human subjects, and if not, whether it nevertheless presents more than "minimal risk" to human subjects that makes IRB review prudent and necessary.

1. Is this project involving human subjects a systematic investigation, including research, development, testing, or evaluation, designed to develop or contribute to generalizable knowledge?

(Note some instructional development and service programs will include a "research" component that may fall within HHS' definition of human subject research).

☒ Yes

☐ No

2. Does the project present physical, psychological, social or legal risks to the participants reasonably expected to exceed those risks normally experienced in daily life or in routine diagnostic physical or psychological examination or testing? You must consider the consequences if individual data inadvertently become public.

☐ Yes - Stop. This research cannot be exempted - submit regular application for IRB review.

☒ No - Continue to see if research can be exempted from IRB oversight

3. Are any of your participants incarcerated?

☐ Yes - Stop. This research cannot be exempted—submit regular application for IRB review.

☒ No - Continue to see if research can be exempted from IRB oversight.

4. Are you obtaining any health information from a health care provider and/or participant (when participant physically resides in EU country) that contains any of the identifiers listed below?

A. Names

B. Address: street address, city, county, precinct, ZIP code, and their equivalent geocodes. Exception for Zip codes: the initial three digits of the ZIP Code may be used, if according to current publicly available data from the Bureau of the Census The geographic unit formed by combining all ZIP codes with the same three initial digits contains more than 20,000 people and (2) the initial three digits of a ZIP code for all such geographic units containing 20,000 or fewer people is changed '000'. (Note: The 17 currently restricted 3-digit ZIP codes to be replaced with '000' include: 036, 059, 063, 102, 203, 556, 692, 790, 921, 830, 831, 878, 884, 890, and 893.)

C. Dates related to individuals

i. Birth date or date of death

ii. Admission date

iii. Discharge date

iv. And all ages over 89 and all elements of dates (including year) indicative of such ages. Such ages and elements may be aggregated into a single category of age 90 or older.

D. Telephone or fax numbers

E. Electronic mail addresses

F. Social security numbers

G. Medical record numbers (including prescription numbers and clinical trial numbers)

H. Health plan beneficiary numbers

I. Account numbers

J. Certificate/license numbers

K. Vehicle identifiers and serial numbers including license plate numbers

L. Device identifiers and serial numbers

M. Web Universal Resource Locators (URLs)

N. Internet Protocol (IP) address numbers

O. Biometric identifiers, including finger and voice prints

P. Full face photographic images and any comparable images

Q. Any other unique identifying number, characteristic, or code; except a code used alone or in combination with other information to identify an individual who is the subject of the information.

☐ Yes - Stop. This research cannot be exempted—submit regular application for IRB review.

☒ No - Continue to see if research can be exempted from IRB oversight.

Part 2: Exemption Criteria for Research Projects

Please select any and all categories that relate to your research. Research is exemptible when all research methods are one or more of the following categories. Check statements that apply to your study:

- ☒ 1. In education setting, research to evaluate normal educational practices.

- ☐ 2. For research **not involving vulnerable people [prisoner, fetus, children, or mentally impaired]**: observe public behavior (including participatory observation), or do interviews or surveys or educational tests:

*The research **must also comply with one of the following**:*

- ☐ a) The participants cannot be identified, directly or statistically;
☐ b) The responses/observations could not harm participants if made public;
☐ c) Recorded information is identifiable and IRB conducts limited review – **Adults only**

- ☐ 3. For benign behavioral interventions with collection of information (verbal, written, audiovisual recording) from adult subjects who prospectively agrees and one of the following is met

- ☐ a) Recorded information cannot readily identify the subject
☐ b) Any disclosure of responses outside of the research would not reasonably place subject at risk
☐ c) Recorded information is identifiable and IRB conducts a limited review

- ☐ 4. Secondary research for which consent is not required: use of identifiable private information or identifiable biospecimens;

*The research **must also comply with one of the following**:*

- ☐ a) Information or biospecimens are publicly available
☐ b) Recorded information cannot readily be identified (directly or indirectly/linked); investigator does not contact subjects and will not re-identify the subjects
☐ c) Information collection and analysis involving identifiable health information when use is regulated by HIPAA "health care operations" or "research" or "public health activities and purposes"
☐ d) Research by or on behalf of Federal department/agency using government-generated or collected information. Compliant with relevant privacy protections.

- ☐ 5. Research and demonstration projects conducted/supported by a Federal department or agency or subject to approval by dept/agency head and that are designed to study, evaluate, improve, or otherwise examine public benefit or service programs

- ☐ a) **Prior to commencing**, research must be posted on a Federal Web Site or in other way determined by the Agency.

- ☐ 6. Research to evaluate food quality, taste, or consumer acceptance.
- ☐ a) The food has no additives
- ☐ b) The food is certified safe by the USDA, FDA, or EPA
-

- ☐ 7. Secondary research for which broad consent is required
- ☐ a) Storage or maintenance of identifiable private information or identifiable biospecimens for potential secondary research use if an IRB conducts a limited IRB review
-

- ☐ 8. Secondary research for which broad consent is required. Research involving the use of identifiable private information or identifiable biospecimens. **All of the following are required:**
- ☐ a) Broad consent for the storage, maintenance, and secondary uses
- ☐ b) Documentation of informed consent or waiver of documentation was obtained
- ☐ c) Limited IRB review that broad consent is consistent with proposed research
- ☐ d) Return of research results not included in the study plan

Part 3: Consent Forms

* The consent form must be written in non-technical language which can be understood by the subjects. It should be free of any exculpatory language through which the participant is made to waive, or appears to be made to waive any legal rights, including any release of the investigator, sponsor, institution or its agents from liability for negligence. (Note: the consent form is not a contract)

* For sample consent forms, please [click here](#)

* The IRB prefers using signed informed consent. However, if that is impractical, an application to waive signed consent can be requested below. If this waiver is requested, the **IRB must be provided with the consent script** that will present the information to subjects regarding the study/research. All consent forms or scripts must include a statement that the study was approved or exempted by the IRB and provide IRB contact information to participants.

I am requesting waiver of signed informed consent because:

- ☐ (a) Having a participant sign the consent form would create the **principal risk** of participating in the study.
- or that
- ☐ (b) The research presents **no more than minimal risk** of harm to subjects and involves no procedures for which having signed consent is normally required.

Now that your application is complete, please send it to the IRB office by e-mail (irb@lsu.edu) for review. If you would like to have your application reviewed by a member of the Human Subjects Screening Committee before submitting it to the IRB of you can find the list of committee members [here](#).

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VITA

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